

Applicant : C. Tondering
Serial No. : 09/384,932
Filed : August 26, 1999
Page : 2 of 13

Attorney Docket: 10559-233001 / P8882

Please amend the claims as follows (this listing of claims replaces all prior listings):

1. (Currently amended) A method comprising:
representing, by a current usage value, a total amount of a resource that is managed by a software tool and is currently in use by ~~at least two processes~~ both a first process and a second process;
for each of the first and second processes, specifying a maximum current usage level that is associated with the process;
changing the current usage value, the changes taking account of decreases of the current usage value according to a function of time; and
~~in connection with additional use of the resource by one of the processes, and at a time when increases in the current usage value by the amount of additional use does not exceed a specified maximum resource usage level, increasing the current usage value by the amount of additional use, and allowing the additional use of the resource by the process~~
in response to a request by one of the processes for additional use of the resource, allowing the process to make the requested additional use and increasing the current usage value by the amount of requested additional use, provided that the requested additional use plus the current usage value would not exceed the maximum current usage level associated with the requesting process.
2. (Previously presented) The method of claim 1, wherein the resource comprises one of memory space and system processor time.
3. (Previously Presented) The method of claim 1, wherein the network comprises an embedded computer system.
4. (Original) The method of claim 1, wherein the network operates in a real-time networking environment.

Applicant : C. Tondering
Serial No. : 09/384,932
Filed : August 26, 1999
Page : 3 of 13

Attorney Docket: 10559-233001 / P8882

5. (Previously presented) The method of claim 1, wherein the software tool is modeled as a leaky bucket.

6. (Previously Presented) The method of claim 1, further comprising:
determining a priority of the resource; and
allocating the resource based on the priority of the resource.

7. (Currently amended) The method of claim 1, further comprising adjusting the specified maximum ~~resource~~ current usage level.

8. (Currently amended) The method of claim 1, further comprising notifying the requesting process that additional use of the resource is allowed ~~when increasing the current usage value by the amount of additional use does not exceed the specified maximum resource usage level~~ the requested additional use plus the current usage value would not exceed the maximum current usage level associated with the requesting process.

9. (Currently amended) The method of claim 8, wherein notifying the requesting process comprises sending a message to a network address associated with the requesting process.

10. (Currently amended) A method comprising:
in a network having resources that are accessed by ~~devices~~ a first device and a second device, for each resource, creating a software tool on each device that uses the resource to manage usage of the resource by the device; and
for each software tool that is used to manage a particular resource used by a particular device,

Applicant : C. Tondering
Serial No. : 09/384,932
Filed : August 26, 1999
Page : 4 of 13

Attorney Docket: 10559-233001 / P8882

using a current usage value to represent a total amount of the particular resource that is managed by the software tool and is currently in use by ~~the devices both the first and the second devices,~~

specifying a maximum current usage level that is associated with the particular device, and

changing the current usage value, the changes taking account of decreases of the current usage value according to a function of ~~time;~~ time, and

~~in connection with additional use of the resource by one of the devices, and at a time when increasing the current usage value by the amount of additional use does not exceed a specified maximum resource usage level, increasing the current usage value by the amount of additional use, and allowing the additional use of the resource by the device~~

in response to a request by one of the processes for additional use of one of the resources, increasing the current usage value by the amount of requested additional use and allowing the process to make the requested additional use, provided that the requested additional use plus the current usage value would not exceed the maximum current usage level associated with the requesting process.

11. (Previously presented) The method of claim 10, wherein creating the software tool comprises: allocating a descriptor representative of the software tool for each of the plurality of devices accessing the resource managed by the software tool.

12. (Previously presented) The method of claim 10, further comprising: decrementing the maximum resource usage level of the software tool in response to the use of the resource associated with the software tool by any device.

13. (Previously presented) The method of claim 32, further comprising sending a message to a network address associated with a device waiting to use the resource when the available amount of resource exceeds a specified usage level.

Applicant : C. Tondering
Serial No. : 09/384,932
Filed : August 26, 1999
Page : 5 of 13

Attorney Docket: 10559-233001 / P8882

14. (Previously Presented) The method of claim 12, further comprising incrementing the maximum usage level to be equal to or more than a usage level requested by the device.

15. (Previously presented) The method of claim 12, further comprising overriding the maximum usage level to allow a device access to one of the plurality of resources.

16. (Original) The method of claim 10, further comprising destroying the software tool in response to a request from one of the devices.

17. (Currently amended) A machine accessible medium, which when accessed results in a machine performing operations comprising:

representing, by a current usage value, a total amount of a resource that is managed by a software tool and is used by ~~at least two devices~~ both a first device and a second device;

for each of the devices, specifying a maximum current usage level that is associated with the device;

changing the current usage value, the changes taking account of decreases of the current usage value according to a function of time; and

~~in connection with additional use of the resource by one of the devices, and at a time when increasing the current usage value by the amount of additional use does not exceed a specified maximum resource usage level, increasing the current usage value by the amount of additional use, and allowing the additional use of the resource by the process~~

in response to a request by one of the devices for additional use of the resource,
increasing the current usage value by the amount of requested additional use and allowing the device to make the requested additional use, provided that the requested additional use plus the current usage value would not exceed the maximum current usage level associated with the requesting device.

Applicant : C. Tondering
Serial No. : 09/384,932
Filed : August 26, 1999
Page : 6 of 13

Attorney Docket: 10559-233001 / P8882

18. (Currently amended) A network including a plurality of devices, comprising:
a plurality of resources running in the network; and
computer software, residing on a computer readable medium at each device accessing the plurality of resources to cause the device to perform the following operations:

representing, by a current usage value, a total amount of a resource that is managed by a software tool and is used by at least ~~two devices~~ a first device and a second device;

for each of the first and second devices, specifying a maximum current usage level that is associated with the device;

changing the current usage value, the changes taking account of decreases of the current usage value according to a function of time; and

~~in connection with additional use of the resource by one of the devices, at a time when increasing the current usage value by the amount of additional use does not exceed a specified maximum resource usage level, the current usage value is increased by the amount of additional use and the additional use of the resource by the process is allowed~~

in response to a request by one of the first and second devices for additional use of the resource, increasing the current usage value by the amount of requested additional use and allowing the device to make the requested additional use, provided that the requested additional use plus the current usage value would not exceed the maximum current usage level associated with the requesting device.

19. (Previously Presented) The network of claim 18, wherein the plurality of resources comprise memory space or system processor time.

20. (Previously Presented) The network of claim 18, wherein the network comprises an embedded computer system.

21. (Previously Presented) The network of claim 18, wherein the network operates in a real-time networking environment.

Applicant : C. Tondering
Serial No. : 09/384,932
Filed : August 26, 1999
Page : 7 of 13

Attorney Docket: 10559-233001 / P8882

22. (Currently amended) The method of claim 1, further comprising calculating an available amount of credit by a difference between the maximum ~~resource~~ current usage level and the current usage value.

23. (Previously presented) The method of claim 1 wherein decreases of the current usage value as a function of time comprises decreases of the current usage value per unit of time by an estimated value of the resource that becomes available per unit of time.

24. (Cancelled).

25. (Previously Presented) The method of claim 1, further comprising:
determining a priority of a process accessing the resource; and
allocating the resource based on the priority of the process.

26. (Previously presented) The method of claim 1 in which decreases of the current usage value as a function of time comprises decreases of the current usage value by a preset amount per unit of time.

27. (Previously presented) The method of claim 26 further comprising regulating use of the resource based on the decreasing of the current usage value so that the total amount of use of the resource does not exceed the preset amount per unit of time.

28. (Previously Presented) The method of claim 26 in which the preset amount represents an estimated amount of resource that becomes available per unit of time.

29. (Currently amended) The method of claim 1, further comprising, ~~if increasing the current usage value by the amount of additional use exceeds a specified maximum resource~~

Applicant : C. Tondering
Serial No. : 09/384,932
Filed : August 26, 1999
Page : 8 of 13

Attorney Docket: 10559-233001 / P8882

~~usage level~~ the requested additional use plus the current usage value would exceed the maximum current usage level associated with the requesting process, waiting for a period of time until the current usage value decreases to below a level such that increasing the current usage value based on the amount of requested additional use ~~does not~~ would not exceed the specified maximum ~~resource usage value~~ current usage level.

30. (Previously presented) The method of claim 1 in which the decreases of the current usage value is independent of the amount of use of the resource by the processes.

31. (Currently amended) The method of claim 10 in which different software tools on different devices that are associated with a common resource have different specified maximum ~~resource-current~~ usage levels.

32. (Currently amended) The method of claim 12, further comprising providing a device waiting to use the resource information on the amount of resource that is available based on a difference between the maximum ~~resource-current~~ usage level and the current usage value.

33. (Previously presented) The machine accessible medium of claim 17, wherein the resource comprises one of memory space and system processor time.

34. (Previously presented) The machine accessible medium of claim 17, wherein the software tool is modeled as a leaky bucket.

35. (Currently amended) The machine accessible medium of claim 17, which when accessed results in the machine performing operations comprising adjusting the specified maximum ~~resource-current~~ usage level.

Applicant : C. Tondering
Serial No. : 09/384,932
Filed : August 26, 1999
Page : 9 of 13

Attorney Docket: 10559-233001 / P8882

36. (New) The method of claim 1 in which the maximum current usage value associated with the first process is different from the maximum current usage value associated with the second process.

37. (New) The method of claim 17 in which the maximum current usage value associated with the first device is different from the maximum current usage value associated with the second device.

38. (New) The method of claim 18 in which the maximum current usage value associated with the first device is different from the maximum current usage value associated with the second device.